State Of California The Resources Agency of California

M e m o r a n d u m

Date: December 12, 2001
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From: **California Energy Commission -** Kristy Chew, Siting Project Manager
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Subject: **COSUMNES POWER PLANT PROJECT (01-AFC-19) – ISSUES IDENTIFICATION REPORT**

Attached is staff's Issues Identification Report. This report serves as a preliminary scoping document as it identifies the issues the Energy Commission staff believes will require careful attention and consideration. However, this report may not include all the significant issues that may arise during the case, as discovery is not yet complete, and other parties have not had an opportunity to identify their concerns. Energy Commission staff will be prepared to present the Issues Report at the Information Hearing on December 19, 2001.

Part of this report deals with scheduling issues. The Energy Commission is reviewing the Cosumnes Power Plant pursuant to the 12-month Application for Certification (AFC) process set forth in Public Resources Code section 25540.6.

Attachment

cc: Proof of Service List
Docket

KC:kc

ISSUES IDENTIFICATION REPORT

COSUMNES POWER PLANT PROJECT

(01-AFC-19)

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PURPOSE OF THE REPORT

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified in the case thus far. Issues are identified as a result of discussions with federal, state, and local agencies, and our review of the Cosumnes Power Plant (CPP) Application for Certification (AFC), Docket Number 01-AFC-19. This Issues Identification Report contains a project description, summary of potentially significant environmental issues, and a discussion of the proposed project schedule. The staff will address the status of potential issues and progress towards their resolution in periodic status reports to the Committee.

PROJECT DESCRIPTION

On September 13, 2001 the Sacramento Municipal Utility District (SMUD) filed an Application for Certification (AFC) with the California Energy Commission for the construction and operation of the Cosumnes Power Plant (CPP), a proposed nominal 1,000-megawatt (MW) natural gas-fired, combined-cycle electric generating facility. SMUD has proposed to construct the project in two phases with 500 MW per phase. A new natural gas line would be required for the second 500 MW phase which has not been fully addressed in the AFC. Additionally, air emission reduction credits for the second phase are not included in the AFC. The staff assessment will analyze the entire 1000 MW project.

The proposed CPP site would be located approximately 0.4 mile south of the Rancho Seco Nuclear Plant, 25 miles southeast of the City of Sacramento, in Sacramento County. The project would be located on approximately 30-acres of an overall 2,480-acre area owned by SMUD.

Facility Operation. The plant would be constructed in two phases, each consisting of 500 MW. Each phase would have two combustion turbines, two heat recovery steam generators (HRSG), and one condensing steam turbine.

Fuel. Natural gas for the first 500 MW (Phase I) of the project would be supplied to the project site by extending a natural gas pipeline 26 miles originating at the Carson Ice-Gen Facility, in Sacramento County. A new natural gas line would be required to fuel Phase II. SMUD has not yet determined the source or route for the new natural gas transmission line.

Water. In a typical year, the CPP would require 8,000 acre-feet of water. Water would be provided to the project site by a 12-inch water line extended from the Rancho Seco Plant. Water to the Rancho Seco Plant is Central Valley Project water that originates from the American River and conveyed via the Folsom-South Canal. A package treatment plant will provide domestic water.

Distribution. Output from the generators would be connected to the existing switchyard by means of two 230-kV lines, running 0.4 mile north from the facility to the Rancho Seco Plant switchyard.

Schedule. Construction for both phases would occur between fourth quarter 2002 to fourth quarter 2007. Commercial operation of Phase I would begin the first quarter of 2005. Commercial operation of Phase II would begin first quarter 2008.

POTENTIAL MAJOR ISSUES

This portion of the report contains a discussion of the potential issues the Energy Commission staff has identified to date. This report may not include all the significant issues that may arise during the case, as discovery is not yet complete, and other parties have not had an opportunity to identify their concerns. The identification of the potential issues contained in this report was based on our judgement of whether any of the following circumstances will occur:

- Significant impacts may result from the project which may be difficult to mitigate;
- The project as proposed may not comply with applicable laws, ordinances, regulations, or standards (LORS); or
- Conflicts may arise between the parties about the appropriate findings or conditions of certification for the Commission decision that could result in a delay to the schedule.

The following table lists all the subject areas evaluated and notes those areas where the critical or significant issues have been identified and if data requests have been requested. Even though an area is identified as having no potential major issues in this report, it does not mean that an issue will not arise related to the subject area.

Major Issue	Data Request	Subject Area
Yes	To be filed	Air Quality
No	Yes	Alternatives
Yes	Yes	Biological Resources
No	Yes	Cultural Resources
No	No	Facility Design
No	Yes	Geology / Paleontology Resources
No	To be filed	Hazardous Materials Management
No	Yes	Land Use
No	Yes	Noise
Yes	Yes	Project Description
No	To be filed	Public Health
No	No	Reliability / Efficiency
No	No	Socioeconomics
No	Yes	Traffic & Transportation
No	No	Transmission Line Safety & Nuisance
Yes	Yes	Transmission System Engineering
No	Yes	Visual Resources
No	To be filed	Waste Management
No	Yes	Water & Soil Resources
No	To be filed	Worker Safety

TECHNICAL ISSUES

Staff has begun its analyses of the project and is currently in the discovery phase. Potential issues have been identified in Air Quality, Biological Resources, Project Description, Transmission System Engineering, and Water Resources.

AIR QUALITY ISSUES

Staff has identified the following six major air quality issues that could affect the licensing of the project:

1. The proposed Best Available Control Technology (BACT) may not meet the criteria recently recommended by the Federal Environmental Protection Agency (EPA). The applicant has proposed to use selective catalyst reduction (SCR) to minimize the emissions of oxides of nitrogen (NOx) to 2.5 parts per million (ppm) while maintaining the slip of ammonia (NH3) emissions to 10 ppm (ammonia is used in conjunction with the SCR system to reduce NOx emissions). Carbon monoxide (CO) is proposed at 6 ppm. The EPA recently determined that the BACT for a combustion turbine combined cycle operation should be set at 2 ppm for NOx, 2 ppm for CO, and 5 ppm for ammonia. Staff will work with SMUD, the Sacramento Metropolitan Air Quality Management District (District), and EPA staff to resolve this issue prior to the issuance of the District's Preliminary Determination of Compliance.

2. SMUD has not identified sufficient air emission offsets for NOx and PM10 pollutants. SMUD's proposed emission reduction credits for NOx and PM10 do not fully offset the project's NOx emissions in the second quarter and PM10 emissions in the third quarter. Adequate offsets must be provided for each quarter according to the District's New Source Review (NSR) rule. Staff will work with SMUD and District staff to resolve this issue.

3. The proposed interpollutant offsets for ozone and PM10 precursors may not be consistent with District rules. The District NSR rule requires SMUD to demonstrate that the emissions from the project will not cause a new violation or contribute to existing violations of any ambient air quality standards. Because the area experiences violation of the state and federal ozone and the state PM10 standards, SMUD must demonstrate that the project's new emissions would not contribute to the existing violation prior to using interpollutant offsets. Without the ability to use interpollutant offsets, the project may not be adequately offset. Staff will work with SMUD and the District to further explore options to ensure compliance with the District NSR rule.

4. The proposed SO2 for PM10 interpollutant offset ratio may be incorrect. SMUD proposed an analytical method to demonstrate that an interpollutant offset ratio of 1.5 pounds of SO2 for each pound of PM10 is appropriate. This analytical method relies on the measured concentrations of annual PM10, its components, and the current emission inventory for each of the PM10's constituents. Because the project is likely to contribute to existing violations of the state 24-hour PM10 standard, it is necessary for SMUD to demonstrate that the project, after mitigation, will not worsen the existing violations of this standard. Thus, relying on the annual PM10 standards to address the project's contribution to the 24-hour standard may not be appropriate. Staff will work with SMUD to find an acceptable solution to this issue.

5. The applicant has not provided any mitigation for SO2 emissions. SMUD has not proposed to provide any emission reduction credits to mitigate the project's SO2 emissions because none are required under District rules. Staff believes that the project's SO2 emissions need to be mitigated for two reasons 1) SMUD has underestimated the project's SO2 emissions by calculating emissions with a lower sulfur content in the natural gas supply than what PG&E would likely supply to the project and 2) SO2 is a precursor of PM10 and the project's SO2 emissions would contribute to the existing PM10 violations. Staff will work with SMUD to find an acceptable solution to this issue.

6. EPA concerns over the use of agricultural burn reduction credits for air emissions offsets. SMUD proposes to offset some of the air emissions resulting from the project by obtaining agricultural burn reduction credits. The EPA has indicated to Energy Commission staff that the use of agricultural burn reduction credits in an area experiencing federal air pollution violations may not be appropriate. Therefore, SMUD may need to find an alternate PM10 reduction source which may prove to be

difficult in light of the fact that there is a significant amount of competition for emission reduction credits in the lower Sacramento Valley Air Basin. Staff will work with EPA, SMUD, and the District to further explore options to reduce emissions.

BIOLOGICAL RESOURCE ISSUES

The proposed Cosumnes Power Plant project has the potential to affect state- and federally- listed species at the power plant site, the construction laydown area, and along project linears. It is unclear in the AFC whether all necessary surveys for the project site, the construction laydown area, and associated project linears have been completed.

Staff has requested clarification from the applicant of where field surveys were completed and the survey results. Until the data request responses are filed, staff will not know whether all of the surveys have been completed or whether additional surveys will need to be done.

PROJECT DESCRIPTION

The AFC states that there is only enough capacity through the intrastate PG&E natural gas line and at the terminal supply in Winters, California for the first phase of the project and that a new natural gas pipeline would be required for the second phase. The AFC does not include information on the proposed route and environmental setting or impact information for the new pipeline.

Staff has requested complete environmental setting and impact information for the new pipeline. Depending on how much environmental information the applicant already has regarding the new pipeline, complete environmental information may require a significant amount of time to gather.

TRANSMISSION SYSTEM ENGINEERING

The Cosumnes Power Project (1000 MW) is one of four new generation projects scheduled to come on-line in the general Sacramento area over the next five years. The other projects are the Roseville Energy Facility (900 MW), Rio Linda/Elverta Power Project (560 MW), and Colusa Power Plant Project (500 MW). These four projects are expected to add over 2900 megawatts of generating capacity to the area. A complicating factor is that the Northern California area is experiencing transmission constraint problems that limit electricity import and export capabilities under certain conditions. The four generation additions scheduled in the greater Sacramento area could add to these problems by further limiting transmission capabilities and increasing reliability problems.

The new projects, as they are developed, will have an interactive effect on one another and on the grid, depending on the mitigation options selected to solve reliability problems caused by interconnection. To the extent that remedial action

schemes (RAS) continue to be employed to mitigate identified reliability problems on a project-by-project basis, and without enhancing transmission system capabilities, the effect on the grid could be cumulative and reliability problems compounded in the Northern California area as well the Sacramento region. While we believe this will be the case, we are uncertain at this point what impacts will occur, what mitigation options will be selected, or what those interactive (and cumulative) effects will be on the system.

Based on the above observations, staff is concerned that SMUD's system impact study does not provide sufficient information to address contribution of the Cosumnes project to potential cumulative impacts in the Sacramento/Northern California areas. SMUD's study included the Rio Linda project and itself, but did not include the Colusa or Roseville projects. Staff has requested these additions in a recent Data Request, along with other information.

Finally, because of the interactive nature of the problem, staff is working to ensure that the analysis of project impacts for the four projects is coordinated. Toward this end, staff anticipates holding workshops and using other approaches to facilitate this coordination in the near future.

WATER RESOURCES

Staff has identified two major water resource issues that could affect the licensing of the project.

Cooling Water Source. According to the AFC, the proposed CPP would require approximately 8,000 acre-feet of water in a typical year with peak annual demands as high as 9,000 acre-feet per year. The applicant intends to use high quality American River water from the Folsom-South Canal for CPP operation. During normal operation, 97 percent of the total water requirements for the CPP are for cooling water. The State Water Resources Control Board Resolution 75-58 states that use of fresh inland waters for power plant cooling is only warranted when the use of other water supplies or other methods of cooling would be environmentally undesirable or economically unsound. California Water Code Section 13550 considers use of potable domestic water for industrial purposes a waste, and an unreasonable use if recycled water is available of adequate quality and at reasonable cost.

The use of recycled or reclaimed wastewater from the Galt Wastewater Treatment Plant and the Sacramento Regional Wastewater Treatment Plant were rejected in the AFC as environmentally unacceptable and economically unsound but there is no information provided as to what the actual environmental impacts and costs would be and why these were considered prohibitive. Staff will be requesting additional information from SMUD and will analyze the use of alternative water supplies and cooling methods for the proposed project.

Surface Water Discharge. Some or all of the surface water bodies the CPP will discharge to are effluent dependent water bodies that are managed under Regional Water Quality Control Board's Inland Surface Waters Plan. The proposed surface discharge to Clay Creek has the potential to significantly impact in-stream and water supply beneficial uses, as well as threatened and endangered species (salmon and delta smelt). The Central Valley Regional Water Quality Control Board (CVRWQCB) has not established specific water quality objectives and therefore the National Pollutant Discharge Elimination System (NPDES) permitting process may be lengthy.

The applicant states in their November 13, 2001, data adequacy supplement (Section 2.9) that during a meeting with CVRWQCB, they advised the applicant that effluent discharge criteria would be very stringent. Thus consideration of all available discharge alternatives such as zero-discharge, or additional end-of-pipe treatment and cooling processes need to be evaluated. Staff will be requesting additional information from SMUD and working with the CVRWQCB to analyze the use of alternative discharge technologies/ methods for the proposed project.

Additionally, in a letter from the CVRWQCB, dated December 12, 2001, the CVRWQCB has informed staff that SMUD's NPDES permit application is incomplete. Generally, once a complete application is submitted to the CVRWQCB, the entire process for developing and adopting a NPDES permit takes four to six months.

SCHEDULING ISSUES

Staff has begun its analyses of the project and is currently in the discovery phase. As presented above, staff has identified a number of potential issues that will require careful consideration. Many of the issues may require a significant amount of time to resolve before staff can adequately assess the impacts of the project.

Following is staff's proposed schedule for key events of the project. The ability of staff to meet this schedule will depend on the applicant's timely response to: staff's data requests, obtaining emission reduction credits, providing complete environmental setting and impact information for the entire project being proposed, revising the system impact study to include the other power plants proposed in the vicinity, issues of water supply and water discharge requirements, and possible other factors not yet discovered.

ENERGY COMMISSION STAFF'S PROPOSED SCHEDULE

	Activity	Day	Calendar Day
1	Applicant filed Application for Certification (AFC)	-62	September 13, 2001
2	Executive Director's recommendation on data adequacy	-5	November 9, 2001
3	Decision on data adequacy at business meeting	0	November 14, 2001
4	Staff filed data requests (round 1)	26	December 10, 2001
5	Staff files Issue Identification Report	28	December 12, 2001
6	Information hearing, site visit	35	December 19, 2001
7	Applicant provides data request responses (round 1)	56	January 9, 2002
8	Data response and issue resolution workshop (round 1)	68	January 21, 2002
9	Staff files data request (round 2, if necessary)	78	January 31, 2002
10	Applicant provide revised System Impact Study	86	February 8, 2002
11	Applicant provides data request responses (round 2, if necessary)	110	March 4, 2002
12	Data response and issue resolution workshop (round 2, if necessary)	120	March 14, 2002
13	Local, state, and federal agency draft determinations (e.g., draft Biological Opinion, Preliminary Determination of Compliance, draft NPDES permit*)	120	March 14, 2002
14	Preliminary Staff Assessment filed	149	April 12, 2002
15	Preliminary Staff Assessment workshops	170-180	May 3, 2002 – May 13, 2002
16	Local, state, and federal agency final determinations (e.g., Biological Opinion, Final Determination of Compliance, NPDES Permit*)	180	May 13, 2002
17	Final Staff Assessment filed	210	June 12, 2002
18	Evidentiary hearings	219-240	June 21, 2002 – July 12, 2002

* In a letter dated December 12, 2001, the CVRWQCB informed staff that SMUD's NPDES permit application is incomplete and has stated it is unlikely that a tentative permit for the CPP will be sent out for public review by March 14, 2002 or adopted by May 13, 2002.